

**AMENDMENTS TO THE SPECIFICATION:**

Page 4, please replace the paragraph [0014] with the following amended paragraph:

[0014] The gear pump has a drive shaft 30 that is supported so that it can rotate in the housing part 10. The drive shaft 30 is positioned at least approximately coaxial to the journal 24; the housing part 10 has a bore that continues inside the journal 24, through which the drive shaft 30 extends. A corrugated sealing ring is installed between the bore and the drive shaft 30 in order to seal the housing part 10. The drive shaft 30 is coupled to the gear 16, for example by means of a coupling member 36 situated between the end of the journal 24 and the cover part 12. During operation of the gear pump, the drive shaft 30 drives the gear 16 to rotate, which in turn transmits this rotary motion via face gearing to the gear 18, which is likewise provided with face gearing and meshes with the gear 16 on its outer circumference. The tooth engagement of the gears 16, 18 thus divides the pump chamber 14 into two subregions, a first subregion of which constitutes an intake chamber 40 and a second subregion of which constitutes a delivery pressure chamber 42. The intake chamber 40 is connected to delivery pressure chamber 42 by means of a delivery conduit 44 formed respectively between the tooth grooves on the circumference surfaces of the gears 16, 18 and the upper and lower circumference wall of the pump chamber 14. The intake chamber 40 and delivery pressure chamber 42 each have a connection opening in the wall of the housing part 10 or the cover 12 that connects the intake chamber 40 to an intake line, not shown, from the reservoir and connects the delivery pressure chamber 42 via a delivery line, also not

shown, to the intake chamber of the high-pressure fuel pump or the fuel injection pump. The connection opening in the intake chamber 40 constitutes an inlet opening 46 and the connection opening in the delivery pressure chamber 42 constitutes an outlet opening 48.

Page 5, please replace the paragraph [0015] with the following amended paragraph:  
[0015] The gear pump has a pressure limiting valve 50 that is situated in the housing, for example in the housing part 10. The bottom of the recesses 20, 22 constituting the pump chamber 14 have a groove 52 let into them, which extends between the delivery pressure chamber 42 and the intake chamber 40. The groove 52 has a length l, a width b, and a depth t. Viewed in the direction of the rotation axes 25, 27 of the gears 24, 26, the groove 52 depicted in Fig. 3 extends approximately tangential to the gears 16, 18 and its length l is dimensioned so that the groove 52 protrudes beyond the intersecting lines 54 of the top circle Dk of the gears 16, 18. Viewed in the direction of the rotation axes 25, 27 of the gears 16, 18, the groove 52 is situated at least approximately in the center between the two gears 16, 18. The groove 52 thus constitutes a connecting conduit extending from the delivery pressure chamber 42 to the intake chamber 40. Outside the groove 52, the bottom of the recesses 20, 22 of the housing part 10 is spaced slightly apart from the end faces of the gears 16, 18 in the axial direction.

Page 6, please replace the paragraph [0017] with the following amended paragraph:

[0017] The pressure prevailing in the delivery pressure chamber 42 acts on part of the end surface of the valve piston 60 oriented toward the gears 16, 18, generating a force on the valve piston 60 in opposition to the force exerted on it by the compression spring 62. If the force of the compression spring 62 is greater than the force generated by the pressure prevailing in the delivery pressure chamber 42, then the valve piston 60 rests against the end surfaces of the gears 16, 18, which constitute a valve seat. The valve piston 60, in cooperation with the gears 16, 18 thus disconnects the passage through the groove 52 and therefore the connection between the delivery pressure chamber 42 and the intake chamber 40. When the force of the compression spring 62 presses the valve piston 60 against the end surfaces of the gears 16, 18, this reduces the play of the gears 16, 18 in the pump chamber 14 in the direction of their rotation axes 25, 27, preferably eliminating it completely. This is advantageous particularly when starting the gear pump and when starting the internal combustion engine since the efficiency of the pump is then optimal. Through friction, the valve piston 60 exerts a braking force on the gears 16, 18, which is particularly advantageous when starting the gear pump since it achieves a greater flank contact between the teeth of the gears 16, 18. The favorable efficiency of the gear pump – particularly during its startup and during starting the internal question engine when it is necessary to deliver a large quantity of fuel – permits the dimensions of the gear pump to be designed for a smaller delivery quantity than known gear pumps.

Page 7, please replace the paragraph [0018] with the following amended paragraph:

[0018] When a predetermined pressure in the delivery pressure chamber 42 is exceeded, then the force that the pressure exerts on the valve piston 60 exceeds the force of the compression spring 62 so that the valve piston 60 moves in opposition to the force of the compression spring 62 and lifts away from the end surfaces of the gears 16, 18. This opens the passage through the groove 52, thus establishing a connection between the delivery pressure chamber 42 and the intake chamber 40 so that fuel can flow out of the delivery pressure chamber 42 into the intake chamber 40, thus limiting the pressure in the delivery pressure chamber 42. The pressure at which the pressure limiting valve 50 opens can be varied by means of the prestressing of the compression spring 62, the diameter of the valve piston 60, and the position of the valve piston 60 in relation to the delivery pressure chamber 42 and therefore the size of the end surface of the valve piston 60 acted on by the pressure prevailing in the delivery pressure chamber 42. With increasing pressure in the delivery pressure chamber 42, the valve piston 60 is slid further into the bore 56 so that the valve piston 60 opens an ever greater through flow cross section in the groove 52. The maximum through flow cross section that the valve piston 60 opens in the groove 52 is preferably great enough to allow the entire fuel quantity delivered by the gears 16, 18 to flow from the delivery pressure chamber 42 back to the intake chamber 40 when the gear pump is not supposed to deliver any fuel. The cross-sectional area of the groove 52 that determines the maximum through flow cross section is preferably between 30 and 60 mm<sup>2</sup>. When the valve piston 60 travels into the bore 56, it displaces fuel from the chamber 64 into the intake

chamber 40 via the bore 66. When the valve piston 60 travels out from the bore 56, the chamber 64 can be refilled with fuel from the intake chamber 40 via the bore 66.

Page 8, please replace the paragraph [0020] with the following amended paragraph:  
[0020] The gear pump also has a bypass valve 70 that can open a connection between the delivery pressure chamber 42 and the intake chamber 40 when the pressure in the delivery pressure chamber 42 is less than that in the intake chamber 40. This can be the case particularly after the gear pump has run dry or when it is filled for the first time; the bypass valve 70 makes it possible to fill the gear pump and to bleed air from it. The bypass valve 70 has a valve member 72; the pressure prevailing in the delivery pressure chamber 42 acts on this valve member 72 and pushes it toward a valve seat 74 on the housing part 10. For example, the valve member 72 is contained in a recess 76 of the groove 52 in the region of the groove that protrudes into the delivery pressure chamber 42. The valve member 72 can be comprised, for example, of an elastomer and the valve seat 74 can be embodied in the form of a flat seat. From the valve seat 74, a bore 78 leads into the chamber 64 in the bore 56 behind the valve piston 60 and this chamber 64 is in turn connected to the intake chamber 40 via the bore 66. The valve member 72 is also engaged by a closing spring 80, which can be embodied, for example, as a prestressed tension spring contained in the bore 78 and engages the valve member 72 at one end and hooks onto the last coil of the compression spring 62 at the other end. The closing spring 80 pulls the valve member 72 toward the valve seat 74 with a slight force, thus bringing it into contact with the valve seat 74 when the gear pump is not

in operation. During operation of the gear pump, if the pressure in the delivery pressure chamber 42 is lower than the pressure in the intake chamber 40, then the bypass valve 70 opens by virtue of its valve member 72 lifting away from the valve seat 74 so that fuel can travel from the intake chamber 40 directly into the delivery pressure chamber 42 and the delivery pressure chamber 42 is filled with fuel. If, during further operation of the gear pump, the pressure in the delivery pressure chamber 42 increases and is greater than the pressure in the intake chamber 40, then this presses the valve member 72 against the valve seat 74 so that the bypass valve 70 closes, thus disconnecting the delivery pressure chamber 42 from the intake chamber 40.

Page 10, please replace the paragraph [0022] with the following amended paragraph:  
[0022] At its end oriented away from the housing part 10, the pressure chamber 85 in the recess of the housing part 84 is delimited by a moving wall 86 that is embodied, for example, in the form of a diaphragm. A sleeve 87 in the recess of the housing part 84 prestresses the diaphragm 86. The middle region of the diaphragm 86 supports a rod 88 that protrudes through a bore in the housing part 10 and rests against the valve piston 60. A prestressed spring 89 embodied, for example, in the form of a helical compression spring is contained in the part of the recess in the housing 84 that the diaphragm 86 separates from the pressure chamber 85. The pressure prevailing in the pressure chamber 85 thus acts on one side of the diaphragm 86 and the prestressed spring 89 acts on the other. When the pressure in the pressure chamber 85 is low, then the spring 89 pushes the diaphragm 86 and with it, the rod

88, toward the valve piston 60, which exerts an additional force on the valve piston 60 in the closing direction in addition to that of the compression spring 62. When the pressure in the pressure chamber 85 is high, then the diaphragm 86 and with it, the rod 88, is pulled away from the valve piston 60 counter to the force of the spring 89 so that a lesser force acts on the valve piston 60 in the closing direction. If the fine filter 83 or the prefilter 82 is slightly soiled, then only a slight pressure loss occurs as the fuel flows through so that a relatively high pressure prevails downstream of the filter. In this case, the high pressure also prevails in the pressure chamber 85 so that the opening motion of the valve piston 60 is essentially determined by the compression spring 62. If the fine filter 83 or the prefilter 82 are heavily soiled, then a greater pressure loss occurs as the fuel flows through so that a relatively low pressure prevails downstream of the filter. In this case, a low pressure also prevails in the pressure chamber 85 so that in addition to the force of the compression spring 62, the force of the spring 89 also acts on the valve piston 60 in the closing direction and this valve piston 60 only opens in the presence of a higher pressure in the delivery pressure chamber 42. The gear pump then generates a correspondingly higher pressure and delivers a greater quantity of fuel, thus compensating for the loss in pressure and quantity due to the filter 82 and/or 83.